What is claimed is:

1. An optical fiber wherein

a zero dispersion wavelength falls within a range of between 1,250 nm and 1,350 nm inclusive,

a transmission loss at 1,550 nm is equal to or less than 0.185 dB/km,

a chromatic dispersion at 1,550 nm is within a range of 19 ± 1 ps/nm·km,

a dispersion slope at 1,550 nm is equal to or less than 0.06 ps/nm^2·km,

an effective area A_{eff} at 1,550 nm is equal to or more than 105 μm^2,

a cable cutoff wavelength λ_{cc} is equal to or less than 1,530 nm,

polarization mode dispersion at 1,550nm is equal to or less than 0.1 ps/km$^{1/2}$, and

a macrobending loss at 1,550 nm when the optical fiber is wound on a mandrel having an outer diameter of 20 mm is equal to or less than 10 dB/m.

2. An optical fiber comprising:

a first region provided in a center of the optical fiber, having a refractive index difference Δn1 relative to a refractive index n0 of silica and an outer diameter of a;

a second region formed around said first region, having a refractive index difference Δn2 relative to the refractive index n0 of silica and an outer diameter of b;

a third region formed around said second region, having a refractive index difference Δn3 relative to the refractive index n0 of silica and an outer diameter of c;

a fourth region formed around said third region, having a refractive index difference Δn4 relative to the refractive index n0 of silica and an outer diameter of d; and

a fifth region formed around said fourth region, having a refractive index difference Δn5 relative to the refractive index n0 of silica and an outer diameter of e,

in which the refractive index differences $\Delta n1$ through $\Delta n5$ satisfy a relationship as follows:

$$\Delta n2 < \Delta n4 < \Delta n3 < \Delta n1$$
$$\Delta n1, \Delta n2, \Delta n3, \Delta n4 < 0$$
$$\Delta n5 > 0$$

3. The optical fiber as claimed in claim 2, wherein
the outer diameter a of said first region, the outer diameter b of said second region and the outer diameter c of said third region satisfy a relationship as follows:

$$1.20 \leqq b/a \leqq 2.00$$

$$1.44 \leqq c/a \leqq 4.00.$$

4. The optical fiber as claimed in claim 2, wherein the refractive index differences $\Delta n1$, $\Delta n2$ and $\Delta n3$ are defined as follows:

$$-0.1\% < \Delta n1 < 0\%$$

$$-0.5\% \leqq \Delta n2 \leqq -0.2\%$$

$$-0.4\% \leqq \Delta n3 \leqq -0.1\%.$$

5. The optical fiber as claimed in claim 2, wherein
the outer diameter e of said fifth region and the outer diameter d of said fourth region satisfy a relationship as follows:

$$0.040 \leqq \{(e-d)/2\}/e \leqq 0.096.$$

6. The optical fiber as claimed in claim 2, wherein
the outer diameter e of said fifth region and the outer diameter d of said fourth region satisfy a relationship as follows:

$$e = 125\ \mu m$$

$$5\ \mu m \leqq \{(e-d)/2\} \leqq 12\ \mu m.$$

7. An optical fiber comprising:

a first region provided in a center of the optical fiber, having a germanium concentration of C_{Ge1} (mol%) and a fluorine concentration of C_{F1} (mol%);

a second region formed around said first region, having a germanium concentration of C_{Ge2} (mol%) and a fluorine concentration of C_{F2} (mol%);

a third region formed around said second region, having a germanium concentration of C_{Ge3} (mol%) and a fluorine concentration of C_{F3} (mol%);

a fourth region formed around said third region, having a germanium concentration of C_{Ge4} (mol%) and a fluorine concentration of C_{F4} (mol%); and

a cladding portion formed around said fourth region,

in which the germanium concentrations C_{Ge1} through C_{Ge4} and fluorine concentrations C_{F1} through C_{F4} satisfy a relationship as follows:

$$-0.1 < 0.096 \times C_{Ge1} - 0.398 \times C_{F1} < 0$$

$$-0.5 \leqq 0.096 \times C_{Ge2} - 0.398 \times C_{F2} \leqq -0.2$$

$$-0.4 \leqq 0.096 \times C_{Ge3} - 0.398 \times C_{F3} \leqq -0.1$$

$$-0.5 < 0.096 \times C_{Ge4} - 0.398 \times C_{F4} < -0.1$$

8. The optical fiber as claimed in claim 7, wherein

the germanium concentrations C_{Ge1} through C_{Ge4} and fluorine concentrations C_{F1} through C_{F4} satisfy a relationship as follows:

$$C_{Ge1}, C_{Ge2}, C_{Ge3}, C_{Ge4} = 0$$
$$C_{F1}, C_{F2}, C_{F3}, C_{F4} > 0.$$

9. The optical fiber as claimed in claim 7, wherein

the germanium concentrations C_{Ge1} through C_{Ge4} and fluorine concentrations C_{F1} through C_{F4} satisfy a relationship as follows:

$$C_{Ge1}, C_{F1} > 0$$
$$C_{Ge2}, C_{Ge3}, C_{Ge4} = 0$$
$$C_{F2}, C_{F3}, C_{F4} > 0.$$

10. The optical fiber as claimed in claim 7, wherein

the germanium concentrations C_{Ge1} through C_{Ge4} and fluorine concentrations C_{F1} through C_{F4} satisfy a relationship as follows:

$C_{Ge1}, C_{F1} > 0$

$C_{Ge2} = 0, C_{F2} > 0$

$C_{Ge3}, C_{F3} > 0$

$C_{Ge4}, = 0, C_{F4} > 0$

11. A method for manufacturing an optical fiber which includes:

a first region provided in a center of the optical fiber, having a refractive index difference $\Delta n1$ relative to a refractive index n0 of silica and an outer diameter of a;

a second region formed around said first region, having a refractive index difference $\Delta n2$ relative to the refractive index n0 of silica and an outer diameter of b;

a third region formed around said second region, having a refractive index difference $\Delta n3$ relative to the refractive index n0 of silica and an outer diameter of c;

a fourth region formed around said third region, having a refractive index difference $\Delta n4$ relative to the refractive index n0 of silica and an outer diameter of d; and

a fifth region formed around said fourth region, having a refractive index difference $\Delta n5$ relative to the refractive index n0 of silica and an outer diameter of e,

in which the refractive index differences $\Delta n1$ through $\Delta n5$ satisfy a relationship as follows:

$\Delta n2 < \Delta n4 < \Delta n3 < \Delta n1$

$\Delta n1, \Delta n2, \Delta n3, \Delta n4 < 0$

$\Delta n5 > 0$,

a zero dispersion wavelength of the optical fiber falls within a range of between 1,250 nm and 1,350 nm inclusive,

the first region has a germanium concentration of C_{Ge1} (mol%) and a fluorine concentration of C_{F1} (mol%),

the second region has a germanium concentration of C_{Ge2} (mol%) and a fluorine concentration of C_{F2} (mol%),

the third region has a germanium concentration of C_{Ge3} (mol%) and

a fluorine concentration of C_{F3} (mol%),

the fourth region has a germanium concentration of C_{Ge4} (mol%) and a fluorine concentration of C_{F4} (mol%), and

the germanium concentrations C_{Ge1} through C_{Ge4} and the fluorine concentrations C_{F1} through C_{F4} satisfy a relationship as follows:

$$-0.1 < 0.096 \times C_{Ge1} - 0.398 \times C_{F1} < 0$$

$$-0.5 \leqq 0.096 \times C_{Ge2} - 0.398 \times C_{F2} \leqq -0.2$$

$$-0.4 \leqq 0.096 \times C_{Ge3} - 0.398 \times C_{F3} \leqq -0.1$$

$$-0.5 < 0.096 \times C_{Ge4} - 0.398 \times C_{F4} < -0.1,$$

said method wherein, in synthesizing soots which are to be said first through fourth regions, respective soot synthetic raw materials including silica are doped with predetermined amounts of germanium and/or fluorine to synthesize the soots, and

in vitrification of the soots to form a transparent glass, the soots are sintered in an atmosphere including fluorine and/or chlorine.

12. The method as claimed in claim 11, comprising:

a first step of synthesizing a first soot, which is to be the first region, and heating and vitrifying the first soot to form a first glass;

a second step of synthesizing a second soot, which is to be the second region, around the first glass formed at said first step and heating and vitrifying an obtained first glass-soot composite to form a first composite glass;

a third step of synthesizing a third soot, which is to be the third region, around the first composite glass formed at said second step and heating and vitrifying an obtained second glass-soot composite to form a second composite glass;

a fourth step of synthesizing a fourth soot, which is to be the fourth region, around the second composite glass formed at said third step and heating and vitrifying an obtained third glass-soot composite to form a third composite glass;

a fifth step of synthesizing a fifth soot, which is to be the fifth region, around the third composite glass formed at said fourth step and heating and vitrifying an obtained fourth glass-soot composite to form a

fourth composite glass, which is then formed into an optical fiber preform; and

a sixth step of heating and drawing an end of the optical fiber preform to form the optical fiber.

13. An optical fiber wherein

an absolute value of a dispersion value at 1,550 nm falls with a range of between 4 ps/nm·km and 20 ps/nm·km inclusive,

a dispersion slope at 1,550 nm falls with a range of between 0.05 ps/nm^2·km and 0.08 ps/nm^2·km inclusive,

transmission loss at 1,550 nm is equal to or less than 0.2 dB/km, and

an effective area A_{eff} at 1,550 nm is equal to or more than 80 μm^2.

14. An optical fiber comprising:

a center core provided in a center of the optical fiber, having a refractive index difference Δ1 relative to a refractive index n0 of silica and an outer diameter of A;

a side core formed around said center core, having a refractive index difference Δ2 relative to the refractive index n0 of silica and an outer diameter of B;

a first cladding formed around said side core, having a refractive index difference Δ3 relative to the refractive index n0 of silica; and

a second cladding formed around said first cladding, and

in which the refractive index differences Δ1 through Δ3 satisfy a relationship as follows: $\Delta 1 > \Delta 2 > \Delta 3$

15. The optical fiber as claimed in claim 14, wherein the refractive index differences Δn1, Δn2 and Δn3 are defined as follows:

$-0.20\% \leqq \Delta 1 \leqq 0.20\%$

$-0.45\% \leqq \Delta 2 \leqq -0.05\%$

$-0.50\% \leqq \Delta 3 \leqq -0.20\%$.

16. The optical fiber as claimed in claim 14, wherein

the outer diameter A of said center core and the outer diameter B of said side core satisfy a relationship as follows:

$0.3 \leqq A/B \leqq 0.8$, and

a viscosity of said second cladding is higher than a viscosity of said center core.

17. An optical transmission channel of which an optical fiber as claimed in claim 1 or 2 is used in at least one part.

18. An optical transmission channel of which an optical fiber as claimed in claim 13 or 14 is used in at least one part.